# Operator Assisted Drive Test Report

# Teliamura City, Tripura
# December 2022
# (RO, Kolkata)

**Key Performance Indicators (KPIs):**
The following Telecom Service Providers could not meet the KPIs benchmark as stated below—
**AIRTEL**- Rx Quality in 4G (SINR) network.
**BSNL**-Drop Call Rate in 2G & 3G network, Handover Success Rate in 2G network, Rx Quality in 2G & 3G (E/Io) network.
**RJIO**-Rx Quality (SINR) in 4G network.
**VIL-** Rx Quality in 4G (SINR) network.

The Operator Assisted Drive Test has been carried out by Regional Office, Kolkata with the help of Service Providers in Teliamura City and surrounding areas including National Highway-8 on 20th December 2022 and 21th December 2022 from 08.30 AM to 08.00 PM. The drive test covered drive route of 358 KMs (approx) over a period of 2 days. Approximately 341+ calls were made for each of the 8 networks: three 2G networks, two 3G networks and three 4G networks covering four TSPs.

| Overview | Voice Summary | Data Summary |

# Overview

**Teliamura** is a town and a Municipal Council in Khowai district in the Indian state of Tripura. It is on National Highway No. 08 of India. It is also the headquarters of the recently included sub-division of Teliamura. It is 45 km from Agartala, Capital of Tripura, 35 km from Khowai and 42 km from Ambassa.

The test results obtained from these drive tests were utilized to assess the network quality for Voice and Data services in terms of:

**Voice:** Coverage, Quality, Call Setup Success Rate, Drop Call Rate and Block Call Rate.

**Data:** Download Throughputs and Data File Success Rate.

**Voice Tests:** Calls were made for 90 secs duration with wait time of 5 secs between calls in all technologies. Three 2G networks, Two 3G networks, Three 4G networks covering 4 unique TSPs were tested.

**Data Tests:** Dynamic Data Service Testing was performed along same route in all technologies. 500 KB file for 2G, 20MB file for 3G and 40MB file for 4G were downloaded from FTTP server in TSP's own server. Static Data Service Testing was also performed. Three 2G (Lock Mode) networks, Two 3G (Lock Mode) networks, Three 4G (Lock Mode) networks covering 4 unique TSPs were tested.

| Service | Static Data Service Testing- Specifications |
|---|---|
| Download | 2G (Locked) - 500KB,  3G (Locked) - 20 MB, 4G (Locked) - 40 MB |
| Upload | 2G (Locked) - 100KB,  3G (Locked) - 5 MB, 4G (Locked) - 10 MB |
| Web Browsing | 3 links of e/m commerce website www.amazon.in, www.flipkart.com and PayTm |
| Video Steaming | 130 secs Clip |
| Latency | 32 Bytes on www.google.com |

| Technology/ TSP | AIRTEL | BSNL | RJIO | VODAFONE-IDEA |
|---|---|---|---|---|
| 2G | YES | YES | NO | YES |
| 3G | NO | YES | NO | YES |
| 4G | YES | NO | YES | YES |
| TOOL USED | TEMS | NIMO | X-CAL | TEMS |
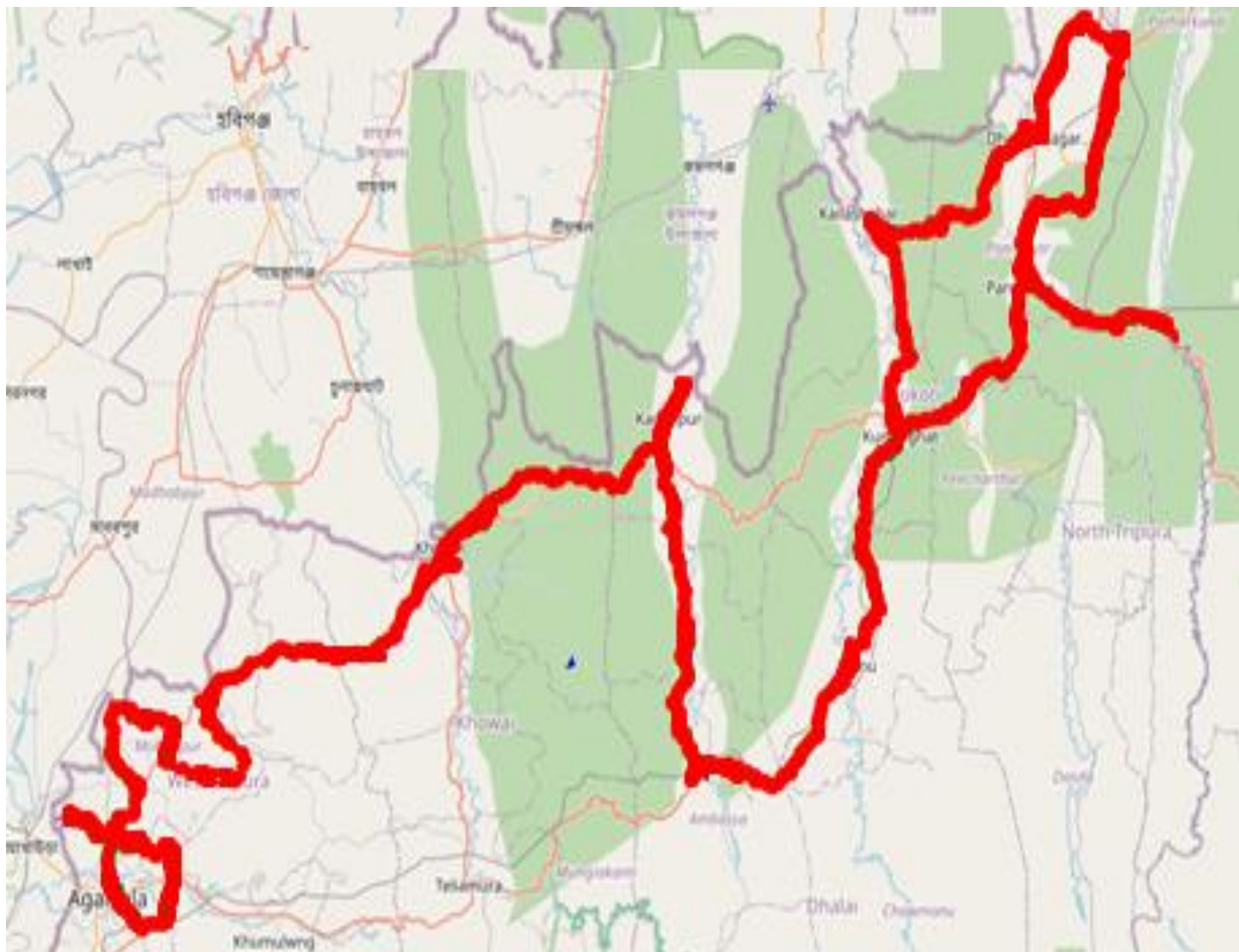
## DRIVE ROUTES OF TRIPURA & SURROUNDING AREAS

**DAY-1**–Agartala Airport–Subhash Nagar – Jogendra Nagar–Debendrachandranagar–Bamutia–Fatikchhara–ICFA University–Lefunga Police Station–Abhicharan–Mohanpur–Taranagar–Hezamara–Baikunthapur–Padmabil-Khowai– Paschim Bachaibari – Paschim Laxmichhara – Behalabari – Sukhiabari – Srirampur – Manikbhandar – Kalachari – Harerkhola – Kamalpur – Chulubari – Bacanchhara – Halhuli – Baralutma – Katalutma – Abhanga – Slema – Kachuchhara – Purba Nalichhara – Ambasa.

**DAY-2**–Ambassa – Sikaribari – Manu – Purba Masli – Nalkata – Dudhpur – Kumarghat – Sonaimuri – Santipur – Jalai – Dhanbilash – Kailashahar Airport –Dharmanagar – Bhagyapur – Bishnupur – Saraspur – Kadamtala – Churaibari – Laxminagar   Noagang – Uptakhali – Panisagar – Nabincherra – Damcherra – Rahumchhara – Lakshmanchhara –Pencharthal – Kumarghat.
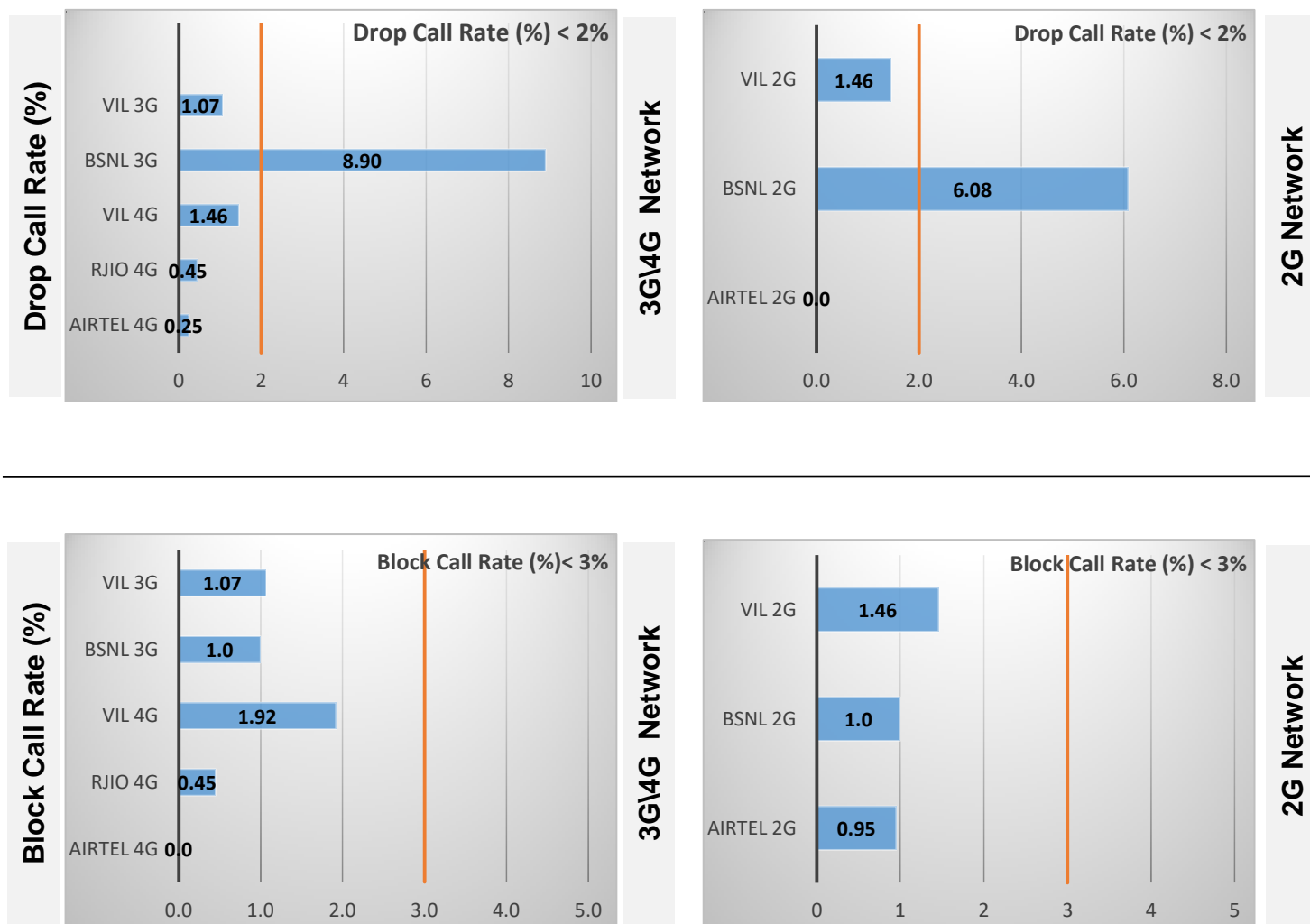
## Data Service Test- Static Locations

| Static Locations |
| --- |
| Agartala Airport |
| District Hospital Khowai |
| Ambassa Police Station |

# Voice Calls

QoS compliance of the TSPs for Voice across technologies 2G/3G/4G-VoLTE:



**Drop Call Rate (%) < 2%** — 3G\4G Network

| | Value |
|---|---|
| VIL 3G | 1.07 |
| BSNL 3G | 8.90 |
| VIL 4G | 1.46 |
| RJIO 4G | 0.45 |
| AIRTEL 4G | 0.25 |

**Drop Call Rate (%) < 2%** — 2G Network

| | Value |
|---|---|
| VIL 2G | 1.46 |
| BSNL 2G | 6.08 |
| AIRTEL 2G | 0.0 |

**Block Call Rate (%) < 3%** — 3G\4G Network

| | Value |
|---|---|
| VIL 3G | 1.07 |
| BSNL 3G | 1.0 |
| VIL 4G | 1.92 |
| RJIO 4G | 0.45 |
| AIRTEL 4G | 0.0 |

**Block Call Rate (%) < 3%** — 2G Network

| | Value |
|---|---|
| VIL 2G | 1.46 |
| BSNL 2G | 1.0 |
| AIRTEL 2G | 0.95 |

| KPIs | 2G | | | 3G | | 4G-VoLTE | | |
|---|---|---|---|---|---|---|---|---|
| | AIRTEL | BSNL | VIL | BSNL | VIL | AIRTEL | RJIO | VIL |
| **Drop Call Rate %** | 0.0 | 6.08 | 1.46 | 8.90 | 1.07 | 0.25 | 0.45 | 1.46 |
| **Block Call Rate %** | 0.95 | 1.0 | 1.46 | 1.0 | 1.07 | 0.0 | 0.45 | 1.92 |

a) All TSPs have met the 2% QOS benchmark of Drop Call Rate (DCR%) except BSNL 2G & 3G network .
b) All TSPs have met the 3% QOS benchmark of Block Call Rate (BCR).

# Voice Calls

## Coverage

**a) Percentage of coverage samples for 2G ≥ -85 dBm.**

| TSPs | 2G | | |
|---|---|---|---|
| | **AIRTEL** | **BSNL** | **VIL** |
| **Coverage %** | 67.52 | 62.0 | 94.77 |

**b)  Percentage of coverage samples for 3G ≥ -90 dBm & LTE  ≥ -110 dBm.**

| TSPs | 3G | | 4G | | |
|---|---|---|---|---|---|
| | **BSNL** | **VIL** | **AIRTEL** | **RJIO** | **VIL** |
| **Coverage %** | 48.0 | 94.86 | 88.39 | 88.92 | 89.19 |

# Summary

| Voice Call | 2G | | |
|---|---|---|---|
| | AIRTEL | BSNL | VIL |
| Call Attempt | 376 | 598 | 206 |
| Blocked Call Rate (%) | 0.95 | 1.0 | 1.46 |
| CSSR% (Accessibility) | 99.46 | 99.0 | 98.54 |
| Drop Call Rate (%) | 0.0 | 6.08 | 1.46 |
| Mobility HOSR (%) | 98.96 | 91.63 | 98.31 |
| Rx Quality (%) | 96.96 | 93.0 | 96.85 |

| Voice Call | 3G/4G | | | | |
|---|---|---|---|---|---|
| | BSNL 3G | VIL 3G | AIRTEL 4G | RJIO 4G | VIL 4G |
| Call Attempt | 373 | 187 | 388 | 443 | 157 |
| Blocked Call Rate (%) | 1.0 | 1.07 | 0.0 | 0.45 | 1.92 |
| CSSR% (Accessibility) | 99.0 | 98.93 | 100 | 99.55 | 98.73 |
| Drop Call Rate (%) | 8.90 | 1.07 | 0.25 | 0.45 | 1.46 |
| Mobility HOSR (%) | 100 | 100 | 99.98 | 97.77 | 100 |
| Rx Quality (%) | 85.0 | 96.78 | 81.32 | 88.16 | 84.93 |

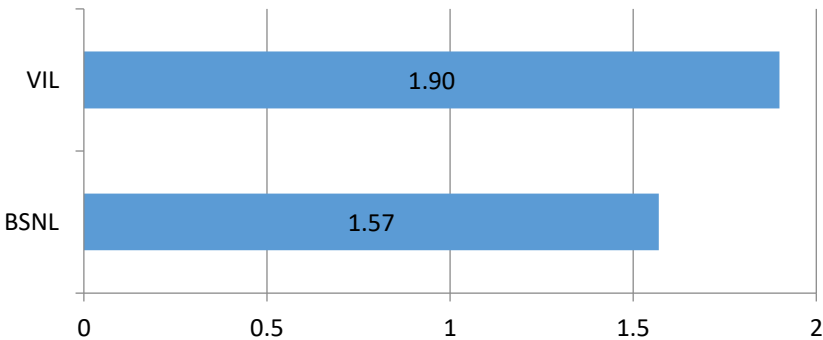Dynamic Data Download Throughput was tested for  358  Kms.

**Data Download Performance (Average Throughput in Mbps)  - Dynamic Data Testing**

## 4G/3G Network:

### 4G-Dynamic Download Average Throuhput (Mbps)

| Operator | Mbps |
|----------|------|
| VIL | 3.41 |
| RJIO | 9.46 |
| AIRTEL | 8.05 |
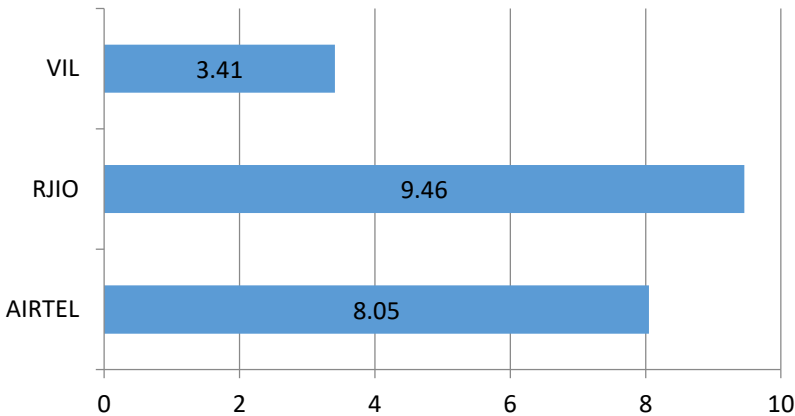
### 3G-Dynamic Download Average Throuhput (Mbps)

| Operator | Mbps |
|----------|------|
| VIL | 1.90 |
| BSNL | 1.57 |

# Summary-Data Services Static

| Average Data Services Static | 2G | | |
|---|---|---|---|
| | AIRTEL | BSNL | VIL |
| Download Throughput (kbps) | 52.70 | 224.70 | 105.84 |
| Upload Throughput (kbps) | 39.30 | 87.82 | 59.36 |
| Web Browsing Delay (sec) | 0.0 | 31.62 | 1.44 |
| Latency (msec) | 171 | 315.21 | 273 |

| Average Data Services Static | 3G/ 4G | | | | |
|---|---|---|---|---|---|
| | BSNL 3G | VIL 3G | AIRTEL 4G | RJIO 4G | VIL 4G |
| Download throughput in Mbps | 6.47 | 3.90 | 13.60 | 14.88 | 26.42 |
| Upload Throughput in Mbps | 2.50 | 0.97 | 7.50 | 10.01 | 10.63 |
| Video streaming delay (secs) | 1.49 | 1.74 | 0.0 | 0.0 | 0.62 |
| Web Browsing Delay (secs) | 14.87 | 1.31 | 0.0 | 3.28 | 0.29 |
| Latency (msec) | 77.03 | 135 | 72 | 60.58 | 92.33 |

# Summary-Data Services Static

| Location:- Agartala Airport | 2G | | |
|---|---|---|---|
| | AIRTEL | BSNL | VIL |
| Download Throughput (kbps) | 48.60 | 221.15 | 103.82 |
| Upload Throughput (kbps) | 32.50 | 72.67 | 64.50 |
| Web Browsing Delay (sec) | 0.0 | 66.34 | 0.94 |
| Latency (msec) | 180 | 290.4 | 248 |

| Location:- Agartala Airport | 3G/4G | | | | |
|---|---|---|---|---|---|
| | BSNL 3G | VIL 3G | AIRTEL 4G | RJIO 4G | VIL 4G |
| Download throughput in Mbps | 5.21 | 1.53 | 13.80 | 10.89 | 34.42 |
| Upload Throughput in Mbps | 2.08 | 0.93 | 7.20 | 4.80 | 12.84 |
| Video streaming delay (secs) | 1.52 | 1.82 | 0.0 | 0.0 | 0.49 |
| Web Browsing Delay (secs) | 16.01 | 1.53 | 0.0 | 3.18 | 0.26 |
| **Latency (msec)** | 82.72 | 132 | 75 | 66.50 | 92 |

| Location:- District Hospital Khowai | 2G | | |
|---|---|---|---|
| | AIRTEL | BSNL | VIL |
| Download throughput in(kbps) | 56.60 | 223.58 | 104.30 |
| Upload Throughput in (kbps) | 44.50 | 93.50 | 54.70 |
| Web Browsing Delay (secs) | 0.0 | 13.55 | 1.60 |
| Latency (msec) | 174 | 353.50 | 234 |

| Location:- District Hospital Khowai | 4G | | | | |
|---|---|---|---|---|---|
| | BSNL 3G | VIL 3G | AIRTEL 4G | RJIO 4G | VIL 4G |
| Download throughput in (mbps) | 8.92 | 4.18 | 11.60 | 10.05 | 32.44 |
| Upload Throughput in (mbps) | 2.96 | 1.04 | 6.90 | 8.62 | 11.21 |
| Video streaming delay (secs) | 1.32 | 1.82 | 0.0 | 0.0 | 0.56 |
| Web Browsing Delay (secs) | 13.04 | 1.43 | 0.0 | 3.55 | 0.28 |
| Latency (msec) | 67.06 | 157 | 82 | 58.43 | 89 |

# Summary-Data Services Static

| Location:- Ambassa Police Station | 2G | | |
|---|---|---|---|
| | AIRTEL | BSNL | VIL |
| Download Throughput (kbps) | 53.20 | 229.42 | 109.40 |
| Upload Throughput (kbps) | 41.10 | 97.30 | 58.90 |
| Web Browsing Delay  (sec) | 0.0 | 14.97 | 1.80 |
| Latency (msec) | 160 | 301.73 | 338 |

| Location:- Ambassa Police Station | 3G/4G | | | | |
|---|---|---|---|---|---|
| | BSNL 3G | VIL 3G | AIRTEL 4G | RJIO 4G | VIL 4G |
| Download throughput in Mbps | 5.29 | 6.30 | 15.60 | 23.69 | 14.32 |
| Upload Throughput in Mbps | 2.45 | 1.08 | 8.40 | 16.61 | 8.63 |
| Video streaming delay (secs) | 1.63 | 1.57 | 0.0 | 0.0 | 0.82 |
| Web Browsing Delay  (secs) | 15.57 | 0.97 | 0.0 | 3.11 | 0.33 |
| **Latency (msec)** | 81.33 | 118 | 59 | 56.8 | 96 |

RF Coverage relates to the geographical footprint within the system that has sufficient RF signal strength to provide for a call session. The Coverage rate is calculated on the basis of % of samples in which the Rx level ≥ -85 dBm, RSCP is ≥ -90 dBm & RSRP ≥ -110dBm. The details are as follows.

| TSP | Coverage Rate % |
|---|---|
| AIRTEL 2G | 67.52 |
| BSNL 2G | 62.0 |
| VIL 2G | 94.77 |
| BSNL 3G | 48.0 |
| VIL 3G | 94.86 |
| AIRTEL 4G | 88.39 |
| RJIO 4G | 88.92 |
| VIL 4G | 89.19 |
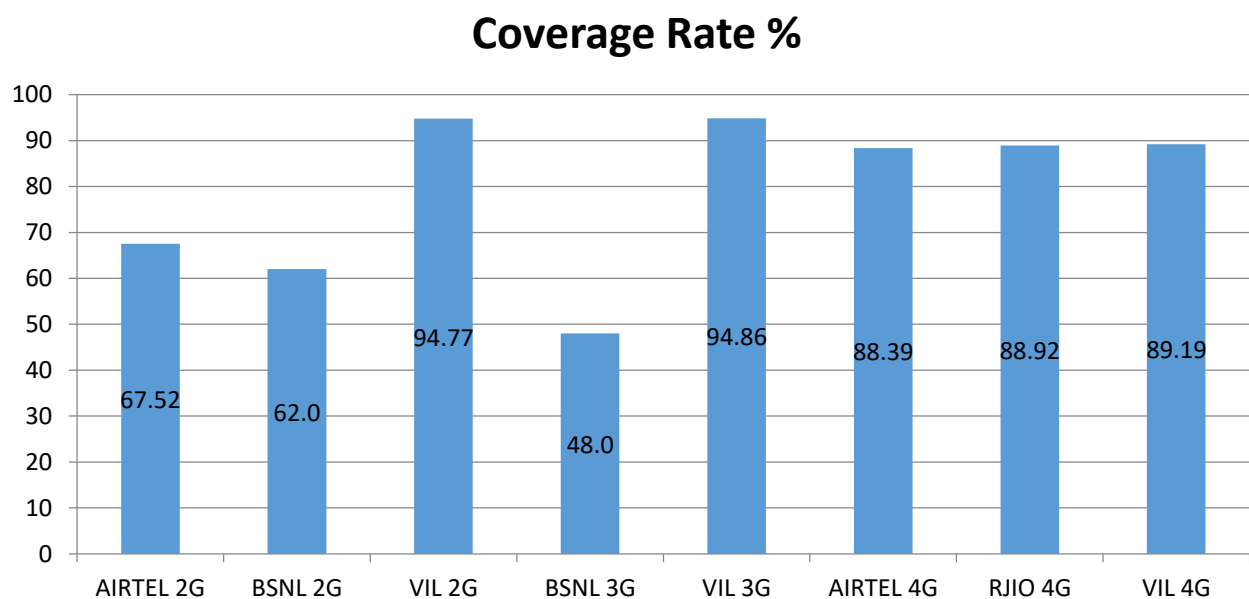
## Coverage Rate %

## AIRTEL

| Technology | Coverage Rate % |
|------------|-----------------|
| 2G | 67.52 |
| 4G | 88.39 |

### 2G
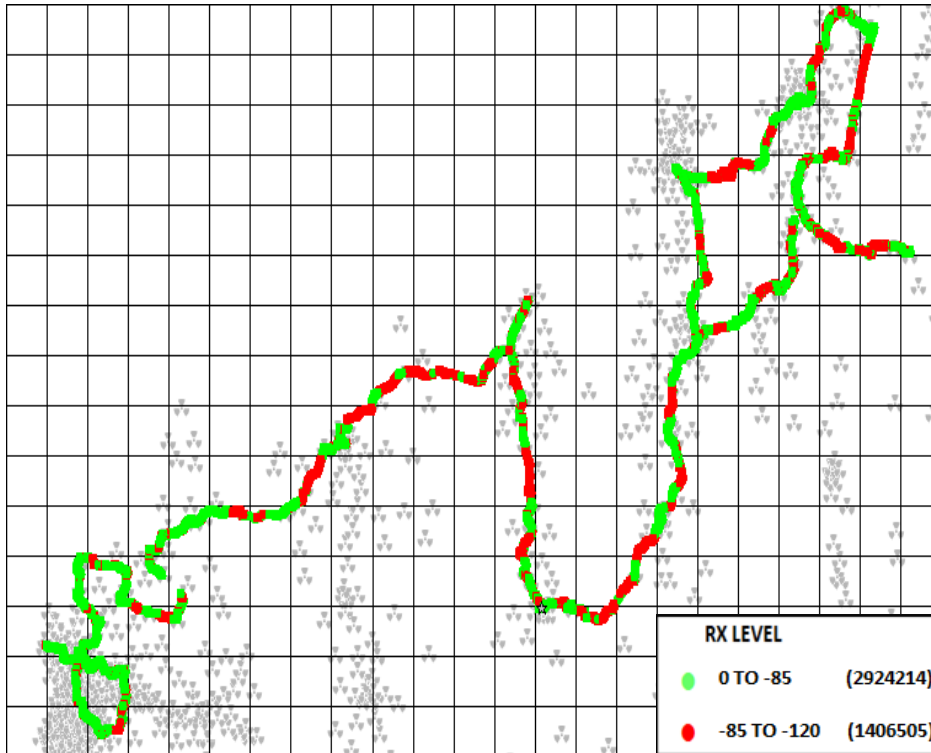


| Overall RxLevel | Sample % |
|-----------------|----------|
| [Max >=-75] | 33.70 |
| [-75 >=-85) | 33.80 |
| [-85 >=-95) | 19.70 |
| [-95 >=Min) | 12.70 |
| **Total** | **100%** |

**RX LEVEL**
- 0 TO -85 (2924214)
- -85 TO -120 (1406505)

### 4G
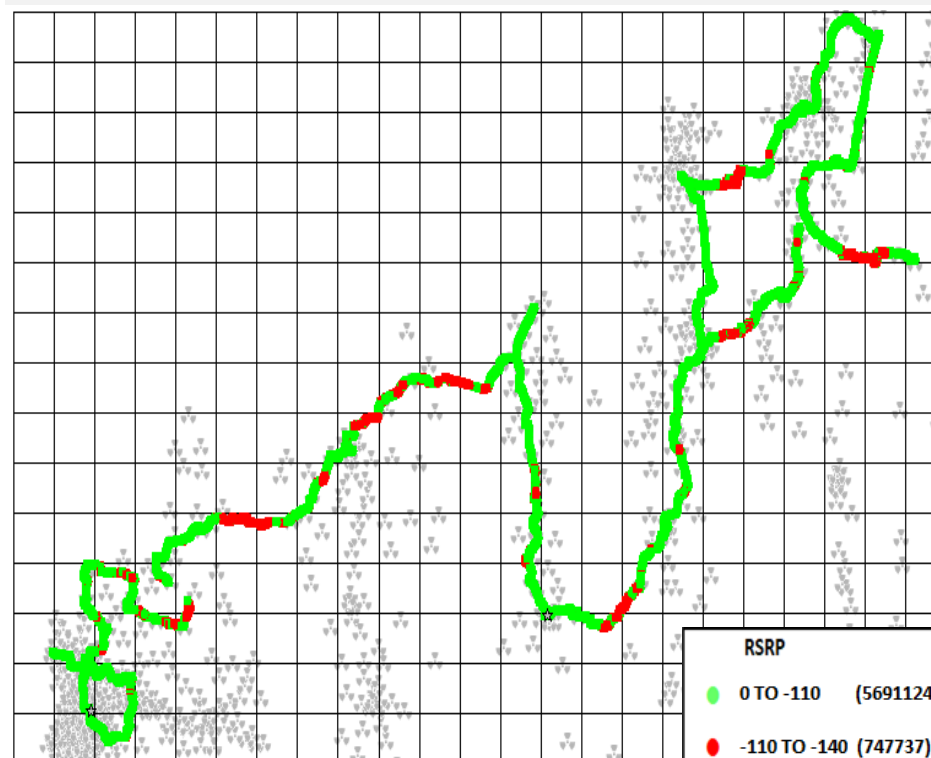


| Overall RSRP | Sample % |
|--------------|----------|
| [Max >=-80] | 17.30 |
| [-80 >=-90) | 25.10 |
| [-90 >=-110) | 46.0 |
| [-110 >=Min) | 11.60 |
| **Total** | **100%** |

**RSRP**
- 0 TO -110 (5691124)
- -110 TO -140 (747737)

## BSNL

| Technology | Coverage Rate % |
|------------|-----------------|
| 2G | 62.0 |
| 3G | 48.0 |

### 2G
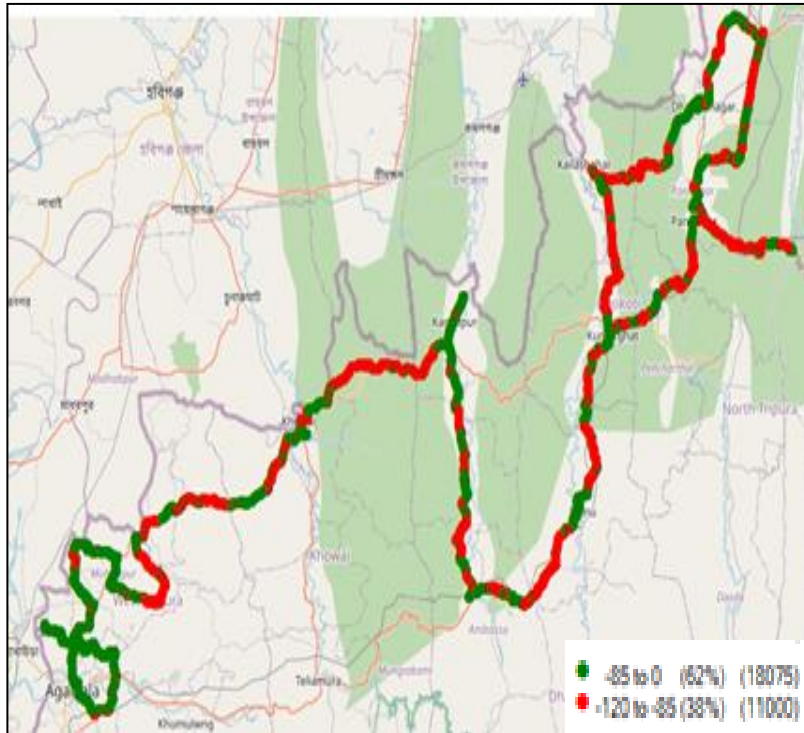


| Overall RxLevel | Sample % |
|-----------------|----------|
| [Max >=-75] | 36 |
| [-75 >=-85) | 26 |
| [-85 >=-95) | 26 |
| [-95 >=Min) | 12 |
| **Total** | **100%** |

### 3G
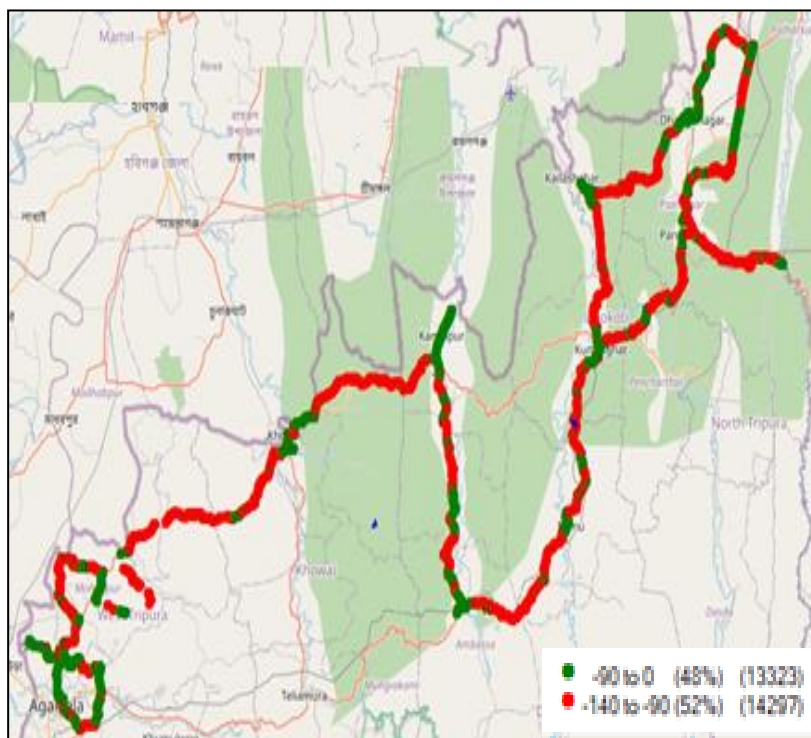


| Overall RSCP | Sample % |
|--------------|----------|
| [Max >=-70] | 16 |
| [-70 >=-80) | 13 |
| [-80 >=-90) | 19 |
| [-90 >=Min) | 52 |
| **Total** | **100%** |

## RJIO

| Technology | Coverage Rate % |
|---|---|
| 4G | 88.92 |

**4G**



| Overall RSRP | Sample % |
|---|---|
| [Max >=-80] | 21% |
| [-80 >=-90) | 20% |
| [-90 >=-110) | 47% |
| [-110 >=Min) | 11% |
| **Total** | **100%** |

## VIL

| Technology | Coverage Rate % |
|------------|-----------------|
| 2G | 94.77 |
| 3G | 94.86 |

### 2G



RxLev Sub (dBm)
- 0 to -85 (94.77%)   (9909962)
- -85 to -130 (05.23%) (546894)
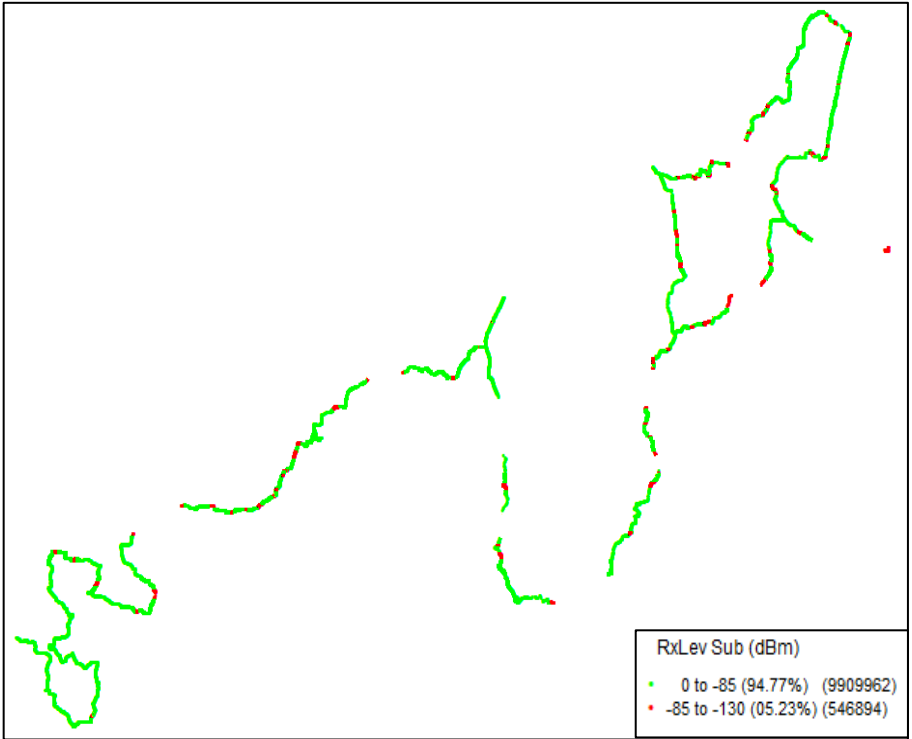
| Overall RxLevel | Sample % |
|-----------------|----------|
| [Max >=-75] | 25.62 |
| [-75 >=-85) | 40.14 |
| [-85 >=-95) | 15.41 |
| [-95 >=Min) | 18.83 |
| **Total** | **100%** |

### 3G



RSCP (dBm)
- -90 to 0 (94.86%)   (8390890)
- -130 to -90 (05.14%) (454662)
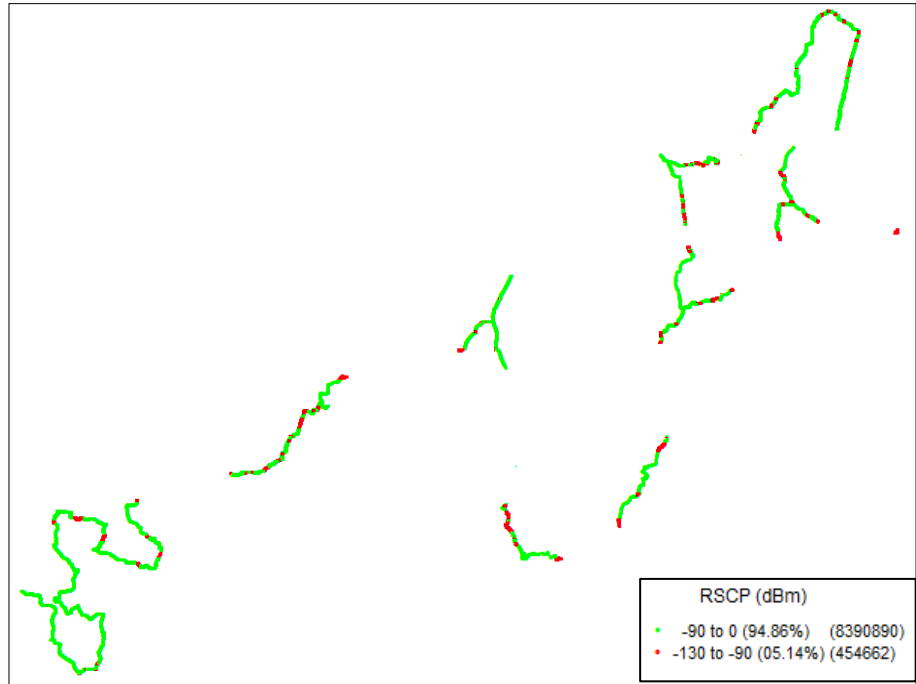
| Overall RSCP | Sample % |
|--------------|----------|
| [Max, >=-70] | 25.4 |
| [-70, >=-80) | 30.3 |
| [-80, >=-90) | 39.16 |
| [-90, >=Min) | 5.14 |
| **Total** | **100%** |

## VIL

| Technology | Coverage Rate % |
|---|---|
| 4G | 89.19 |

### 4G



ServingCell RSRP (dBm)
- -110 to 0 (89.19%)    (5854566)
- -140 to -110 (10.81%) (709783)
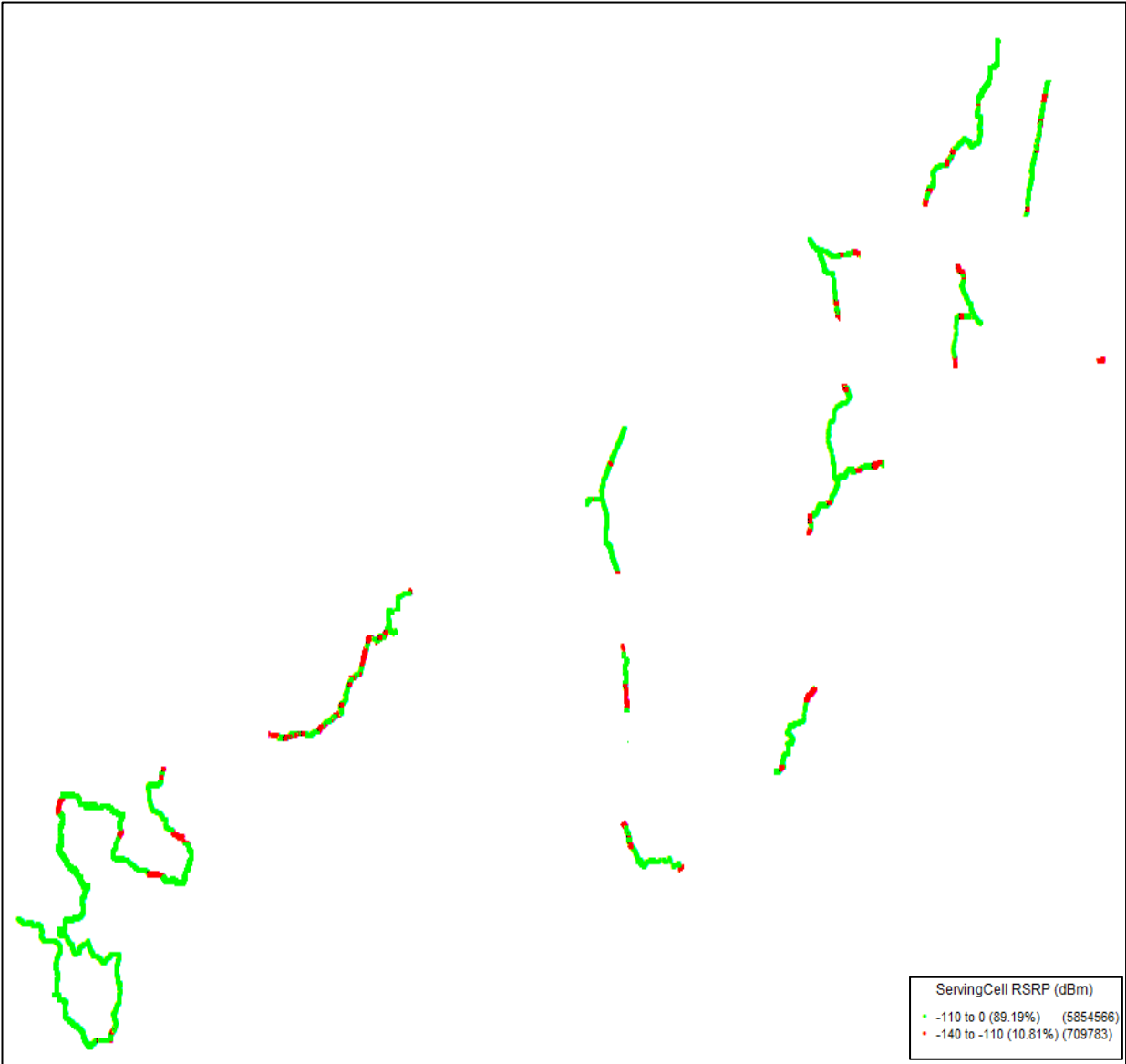
| Overall RSRP | Sample % |
|---|---|
| [Max >=-80] | 24.83 |
| [-80 >=-90) | 28.76 |
| [-90 >=-110) | 35.6 |
| [-110 >=Min) | 10.81 |
| **Total** | **100%** |

For measuring voice quality, as per the QoS norms, Rx Quality<=5 for GSM TSPs, Ec/No >= -14 dBm for 3G TSP sand SINR >0 in case of VoLTE is considered to be good, where as quality beyond this benchmark is considered to be bad. The benchmark should usually be ≥ 95%.

| TSP | Rx Quality % |
|---|---|
| AIRTEL 2G | 96.96 |
| BSNL 2G | 93.0 |
| VIL 2G | 96.85 |
| BSNL 3G | 85.0 |
| VIL 3G | 96.78 |
| AIRTEL 4G | 81.32 |
| RJIO 4G | 88.16 |
| VIL 4G | 84.93 |

## Rx Quality %
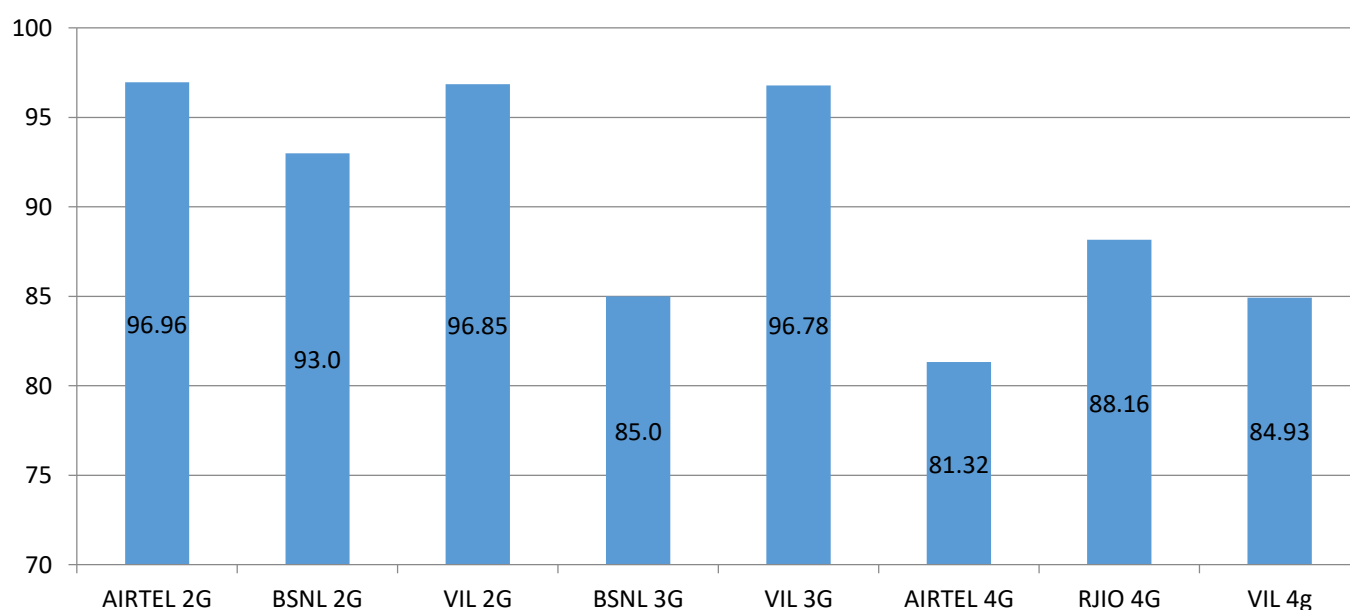
# AIRTEL

| Technology | Rx Quality % |
|:---:|:---:|
| 2G | 96.96 |
| 4G | 81.32 |

## 2G
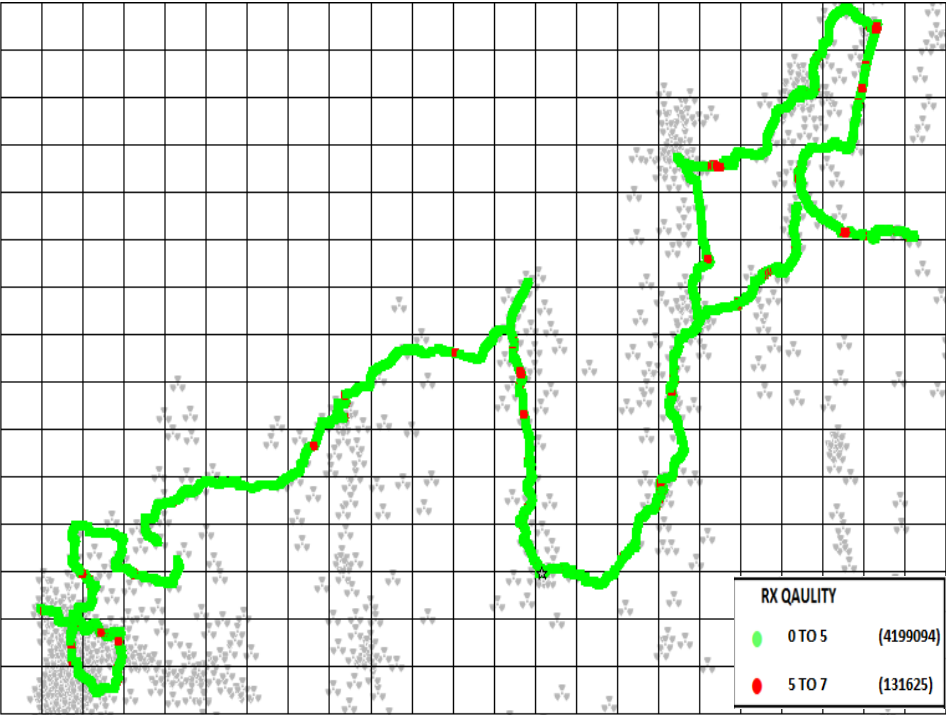


| Overall Rx Quality | Sample % |
|:---|:---:|
| (Min <=2) | 89.4% |
| (2 <=3) | 2.8% |
| (3 <=4) | 2.4% |
| (4 <=5) | 2.3% |
| (5 <=Max) | 3.0% |
| **Total** | **100%** |

RX QAULITY

- 0 TO 5 (4199094)
- 5 TO 7 (131625)

## 4G
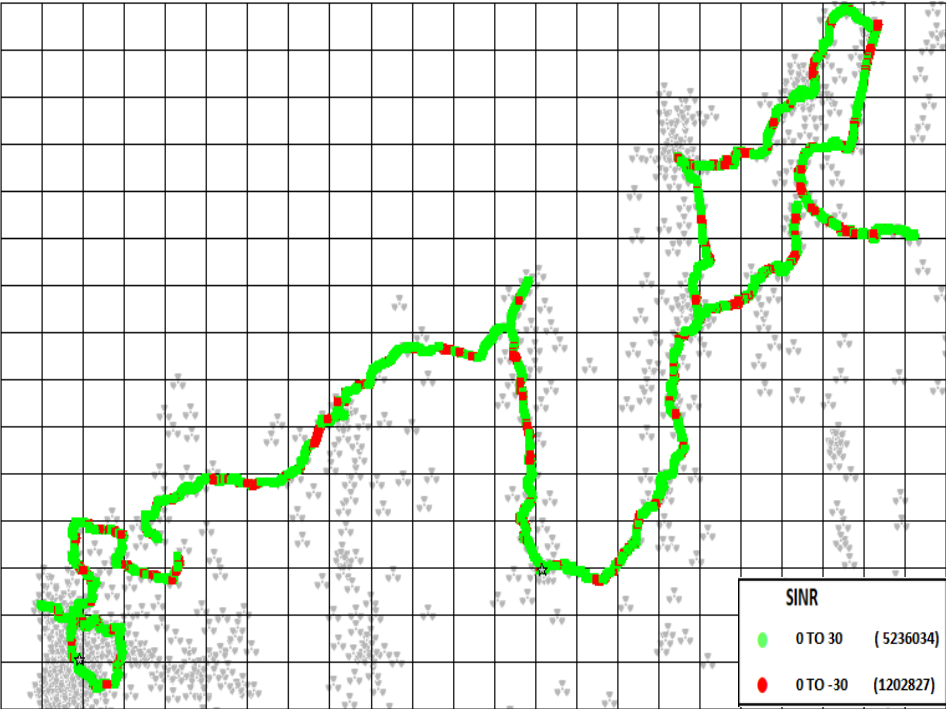


| Overall SINR | Sample % |
|:---|:---:|
| (Min <=0) | 18.68% |
| (0 <=5) | 25.65% |
| (5 <=10) | 19.75% |
| (10 <=15) | 34.11% |
| (15 <=Max) | 1.79% |
| **Total** | **100%** |

SINR

- 0 TO 30 (5236034)
- 0 TO -30 (1202827)

## BSNL

| Technology | Rx Quality % |
|---|---|
| 2G | 93.0 |
| 3G | 85.0 |

### 2G



| Overall Rx Quality | Sample % |
|---|---|
| (Min <=2) | 84.5 |
| (2 <=3) | 3.5 |
| (3 <=4) | 2.5 |
| (4 <=5) | 2 |
| (5 <=Max) | 7.5 |
| **Total** | **100%** |

### 3G
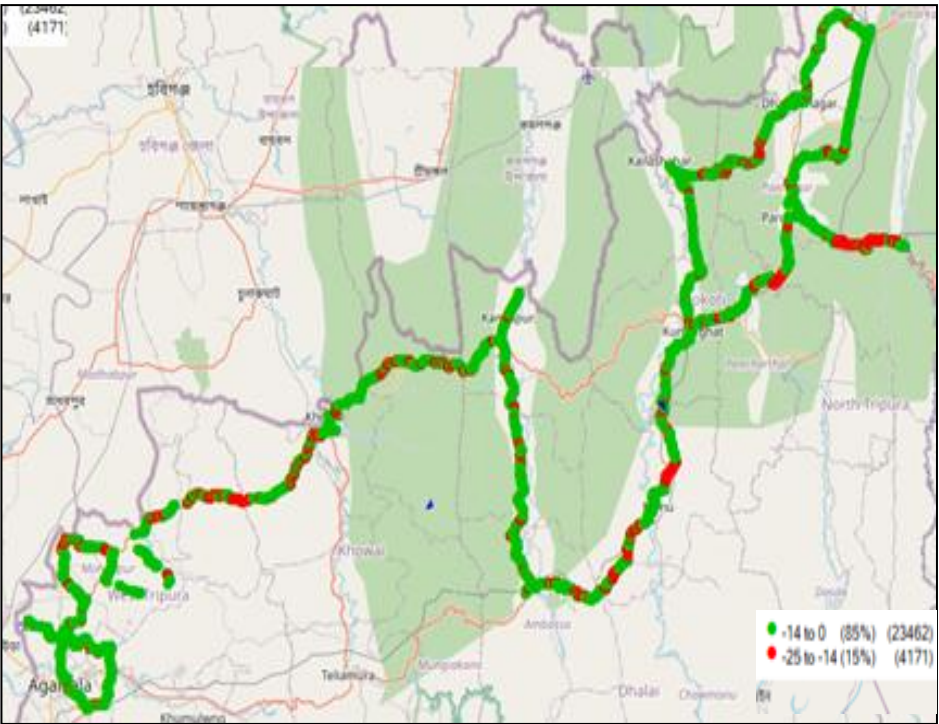


| Overall EcNo | Sample % |
|---|---|
| (Max <=-6) | 15 |
| (-6 <=-9) | 32 |
| (-9 <=-11) | 23 |
| (-11 <=-14) | 15 |
| (-14 <= Min) | **15** |
| **Total** | **100%** |

## RJIO

| Technology | Rx Quality % |
|---|---|
| 4G | 88.16 |
| **4G** | |



LTE KPI PCell SINR[dB]

- 0 < x (88.16%, 39795)
- x <= 0 (11.84%, 5342)

| Overall SINR | Sample % |
|---|---|
| (Min <=0) | 12% |
| (0 <=5) | 18% |
| (5 <=10) | 20% |
| (10 <=15) | 20% |
| (15 <=Max) | 30% |
| **Total** | 100% |

## VIL

| Technology | Rx Quality % |
|------------|--------------|
| 2G | 96.85 |
| 3G | 96.78 |

### 2G



RxQuality Sub (dBm)
- 0 to 5 (96.85%)  (10127465)
- 5 to 20 (03.15%) (329391)
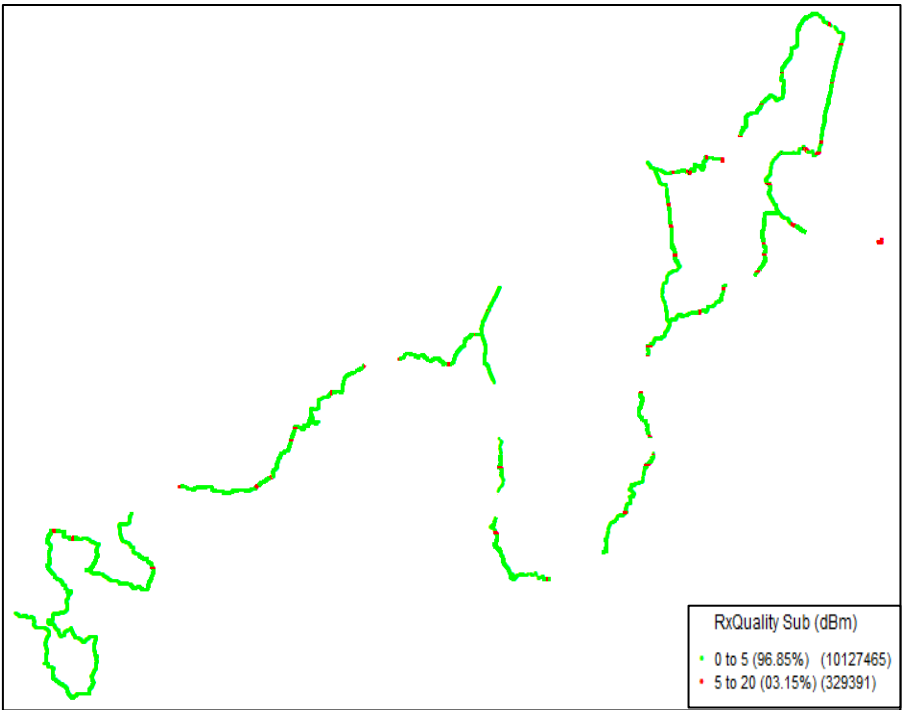
| Overall Rx Quality | Sample % |
|--------------------|----------|
| (Min <=2) | 17.3 |
| (2 <=3) | 21.64 |
| (3 <=4) | 27.06 |
| (4 <=5) | 30.85 |
| (5 <=Max) | 3.15 |
| **Total** | **100%** |

### 3G



EcNo (dBm)
- -14 to 0 (96.78%)  (8560725)
- -30 to -14 (03.22%) (284827)
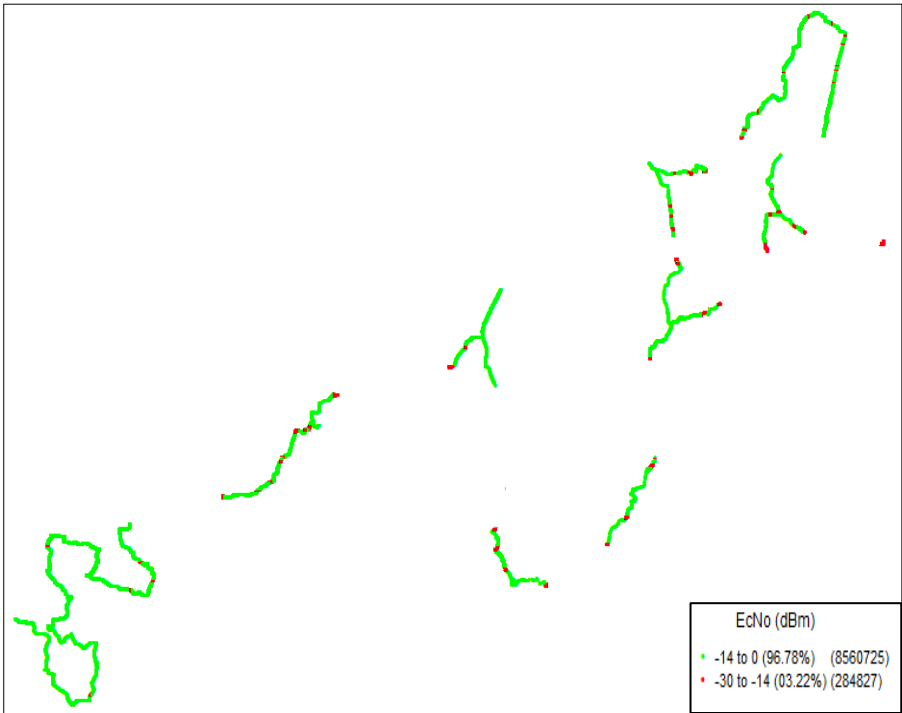
| Overall EcNo | Sample % |
|--------------|----------|
| (Max, <=-6) | 20.81 |
| (-6, <=-9) | 24.94 |
| (-9, <=-11) | 26.31 |
| (-11, <=-14) | 24.72 |
| **(-14, <= Min)** | **3.22** |
| **Total** | **100%** |

## VIL

| Technology | Rx Quality % |
|------------|--------------|
| 4G | 84.93 |

### 4G



ServingCellRS CINR (dB)

- 0 to 40 (84.93%) (5575101)
- -40 to 0 (15.07%) (989248)
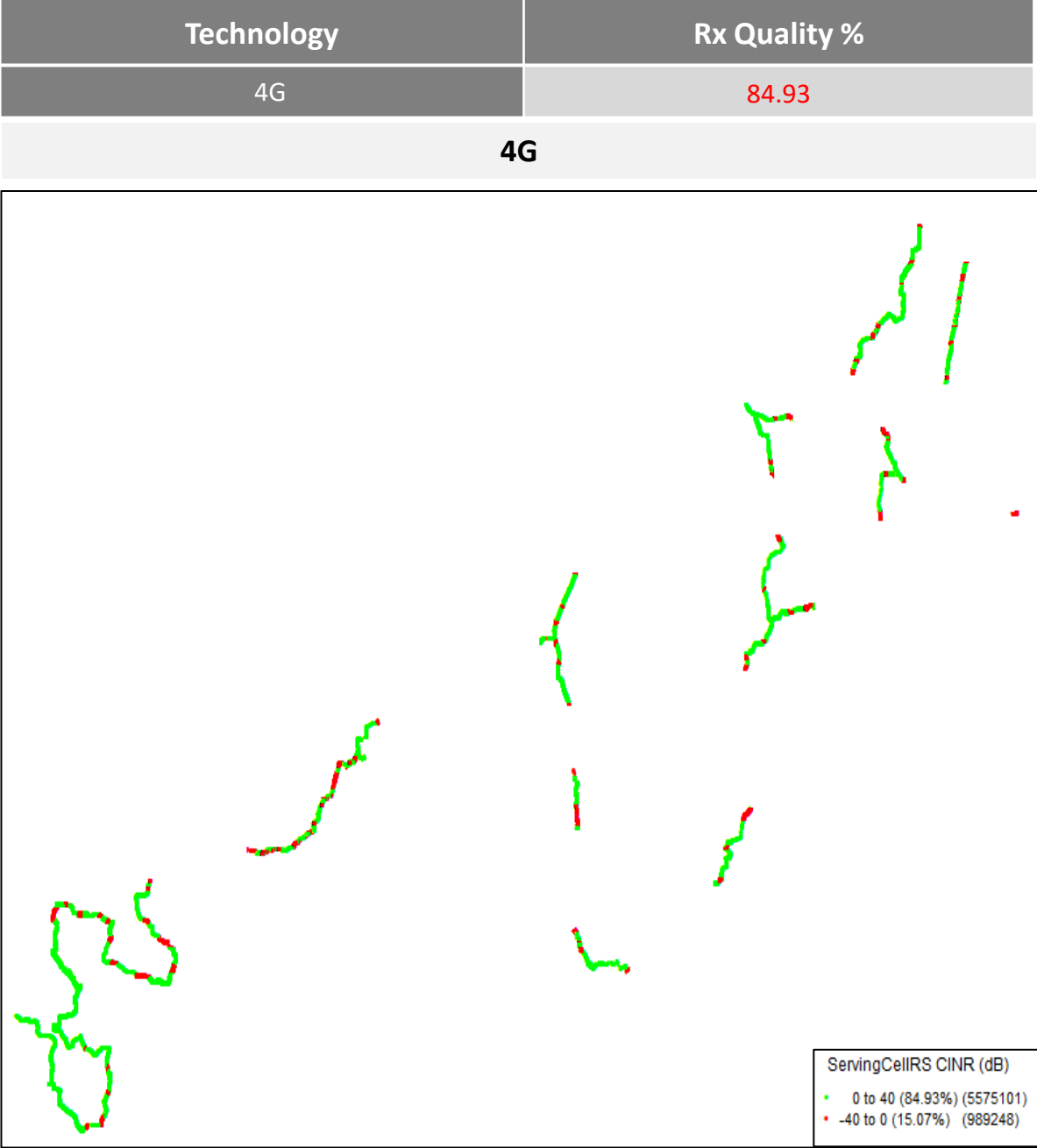
| Overall SINR | Sample % |
|--------------|----------|
| (Min <=0) | 17.65 |
| (0 <=5) | 7.36 |
| (5 <=10) | 8.39 |
| (10 <=15) | 46.34 |
| (15 <=Max) | 20.26 |
| **Total** | **100%** |

## AIRTEL

### Dynamic Data Testing Complete  358 Kms
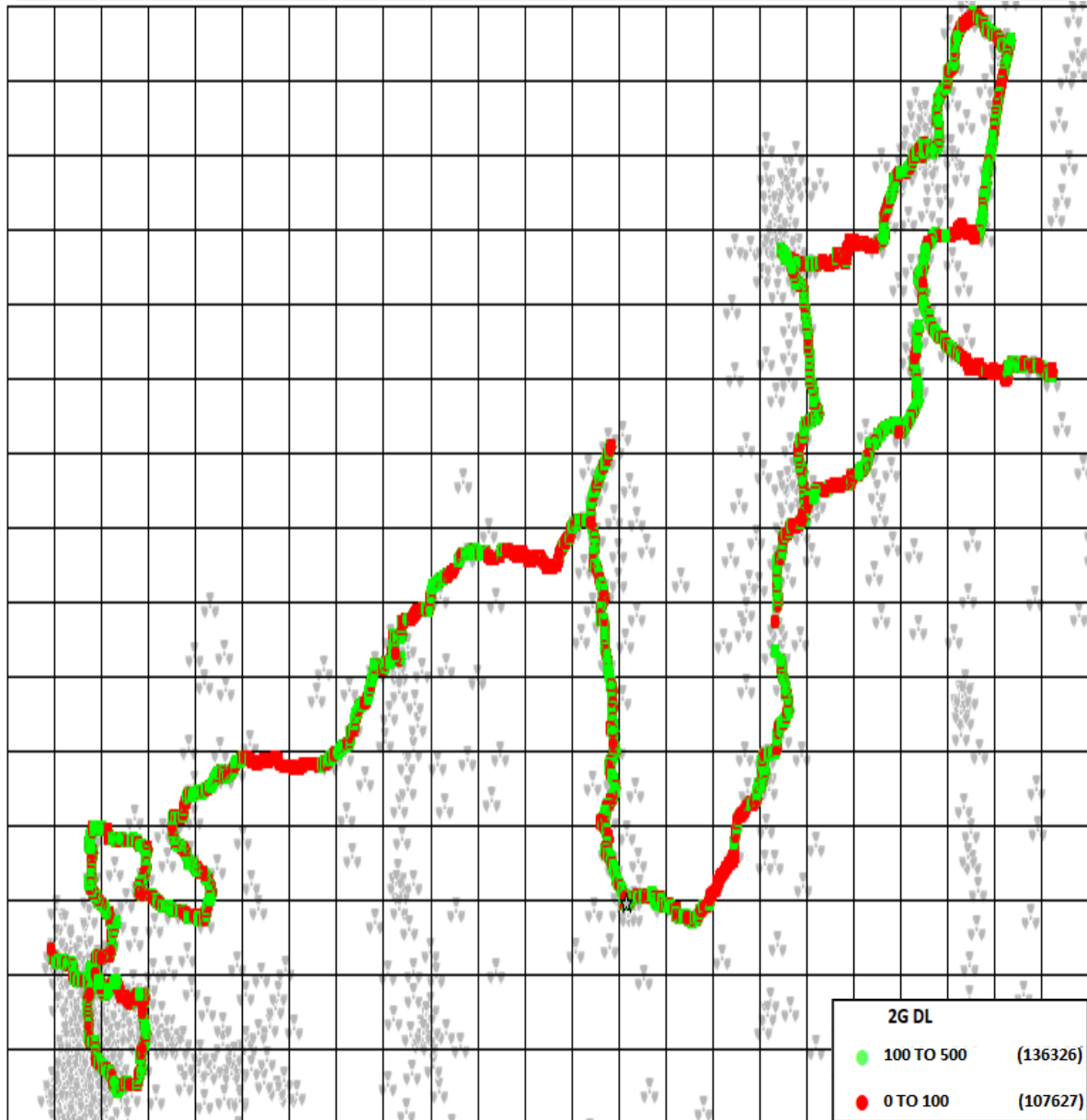
| Data KPIs - Overall | 2G |
|---|---|
| Average  Download Throughput (Kbps) | 84.0 |



| AVG. DOWNLOAD SPEED (Kbps) | 84.0 |
|---|---|
| % FILE TRANSFER COMPLETE | 52.50% |
| DL throughput | Sample % |
| 0 to 50 Kbps | 21.3 |
| 50 to 100 Kbps | 22.8 |
| 100 to 200 Kbps | 19.6 |
| 200 to 300 Kbps | 10.0 |
| >300 Kbps | 26.2 |
| Total | 100% |

## AIRTEL

### Dynamic Data Testing Complete 358 Kms

| Data KPIs - Overall | 4G |
|---|---|
| Average Download Throughput (Mbps) | 8.05 |

| 4G |
|---|



**4G DL**
- 2 TO 100 (149463)
- 0 TO 2 (103883)
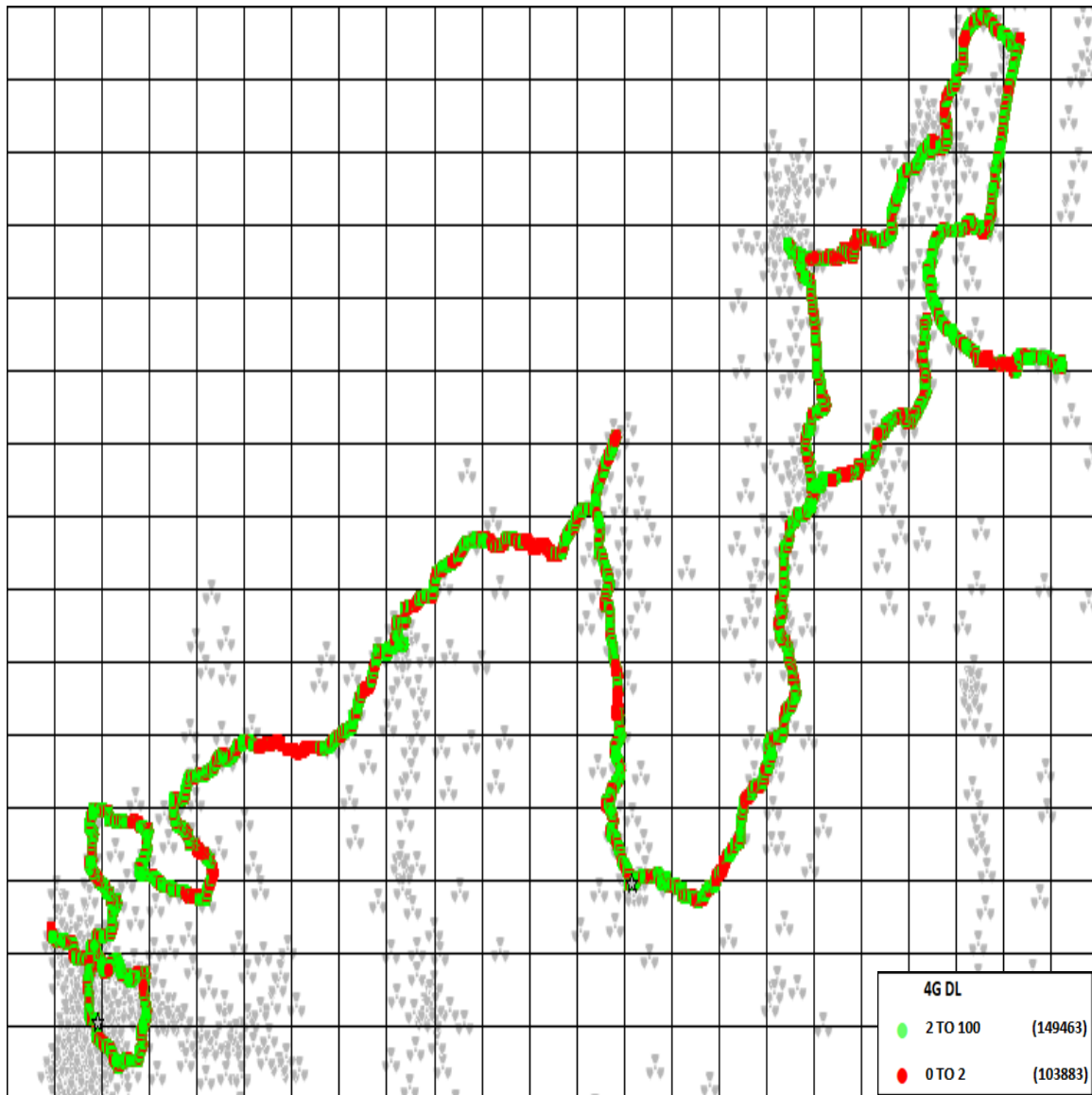
| AVG. DOWNLOAD SPEED (Mbps) | 8.05 |
|---|---|
| % FILE TRANSFER COMPLETE | 72.73% |
| DL throughput | Sample % |
| 0 to 1 Mbps | 6.7 |
| 1 to 2 Mbps | 34.3 |
| 2 to 5 Mbps | 20.4 |
| 5 to 10 Mbps | 19.7 |
| >10 Mbps | 18.9 |
| **Total** | **100%** |

## BSNL

### Dynamic Data Testing Complete   358 Kms

| Data KPIs - Overall | 2G |
|---|---|
| Average  Download Throughput (Kbps) | 141.90 |

### 2G
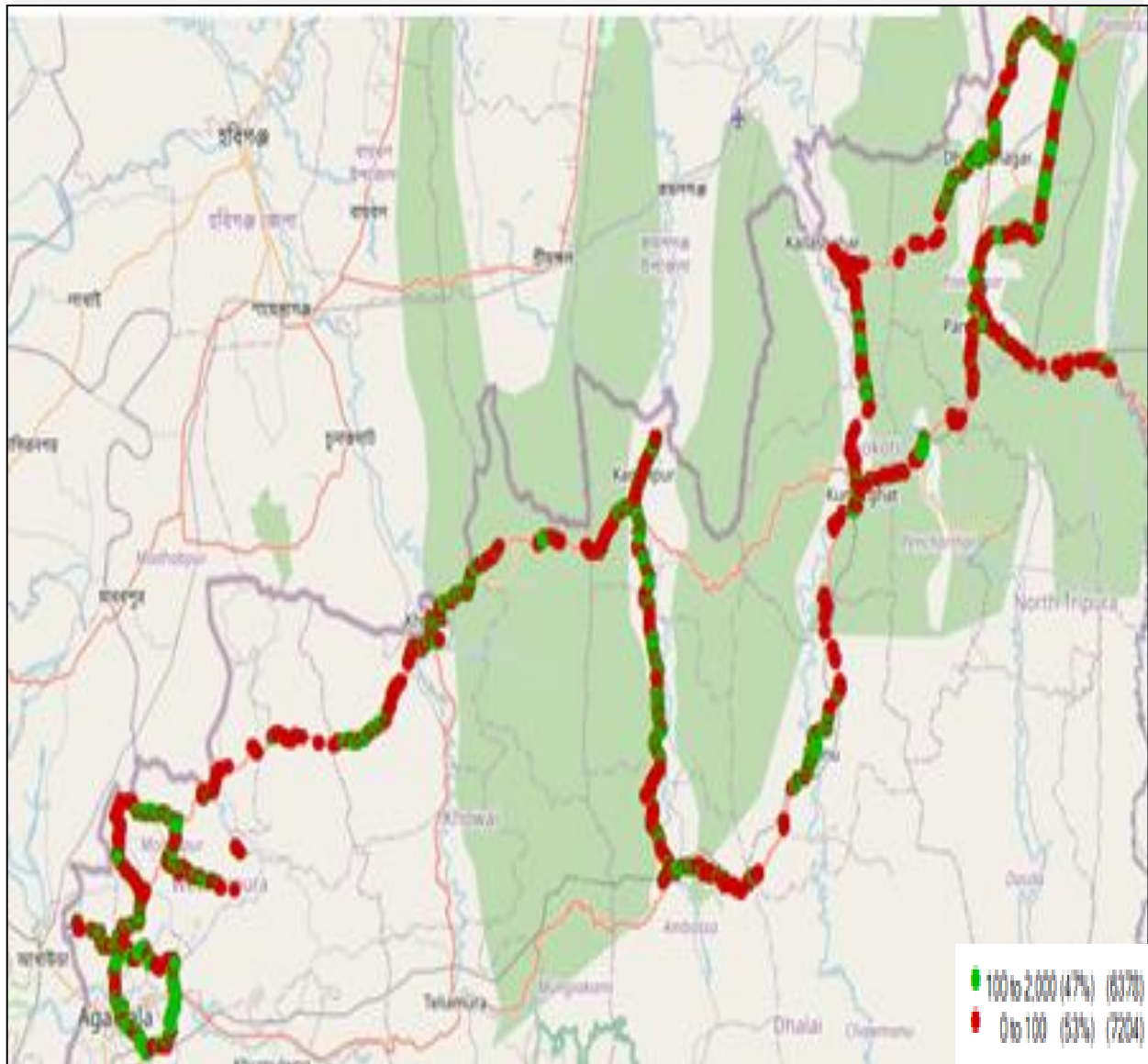


| AVG. DOWNLOAD SPEED (Kbps) | 141.90 |
|---|---|
| % FILE TRANSFER COMPLETE | 61.20 |
| DL throughput | Sample % |
| 0 to 50 Kbps | 37 |
| 50 to 100 Kbps | 16 |
| 100 to 200 Kbps | 29.5 |
| 200 to 300 Kbps | 17.5 |
| >300 Kbps | 0 |
| **Total** | **100%** |

## BSNL

### Dynamic Data Testing Complete  358 Kms
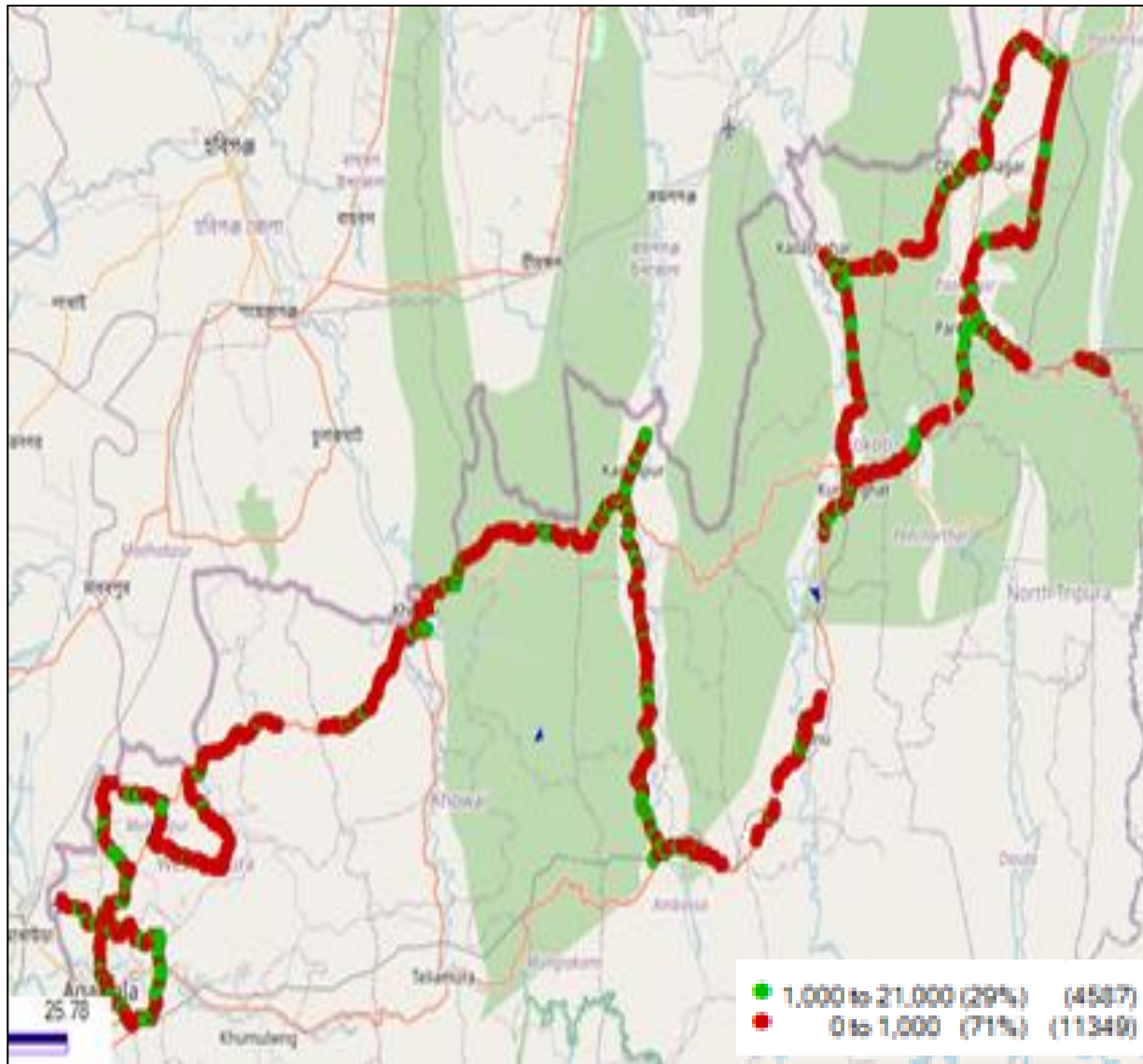
| Data KPIs - Overall | 3G |
|---|---|
| Average  Download Throughput (Mbps) | 1.57 |
| **3G** | |



| AVG. DOWNLOAD SPEED (Mbps) | 1.57 |
|---|---|
| % FILE TRANSFER COMPLETE | 65.0 |
| DL throughput | **Sample %** |
| 0 to 0.5 Mbps | 63 |
| 0.5 to 1 Mbps | 8 |
| 1 to 2 Mbps | 11 |
| 2 to 5 Mbps | 13 |
| >5 Mbps | 5 |
| **Total** | **100%** |

# RJIO

## Dynamic Data Testing Complete   358 Kms

| Data KPIs - Overall | 4G |
|---|---|
| Average Download Throughput (Mbps) | 9.46 |

### 4G
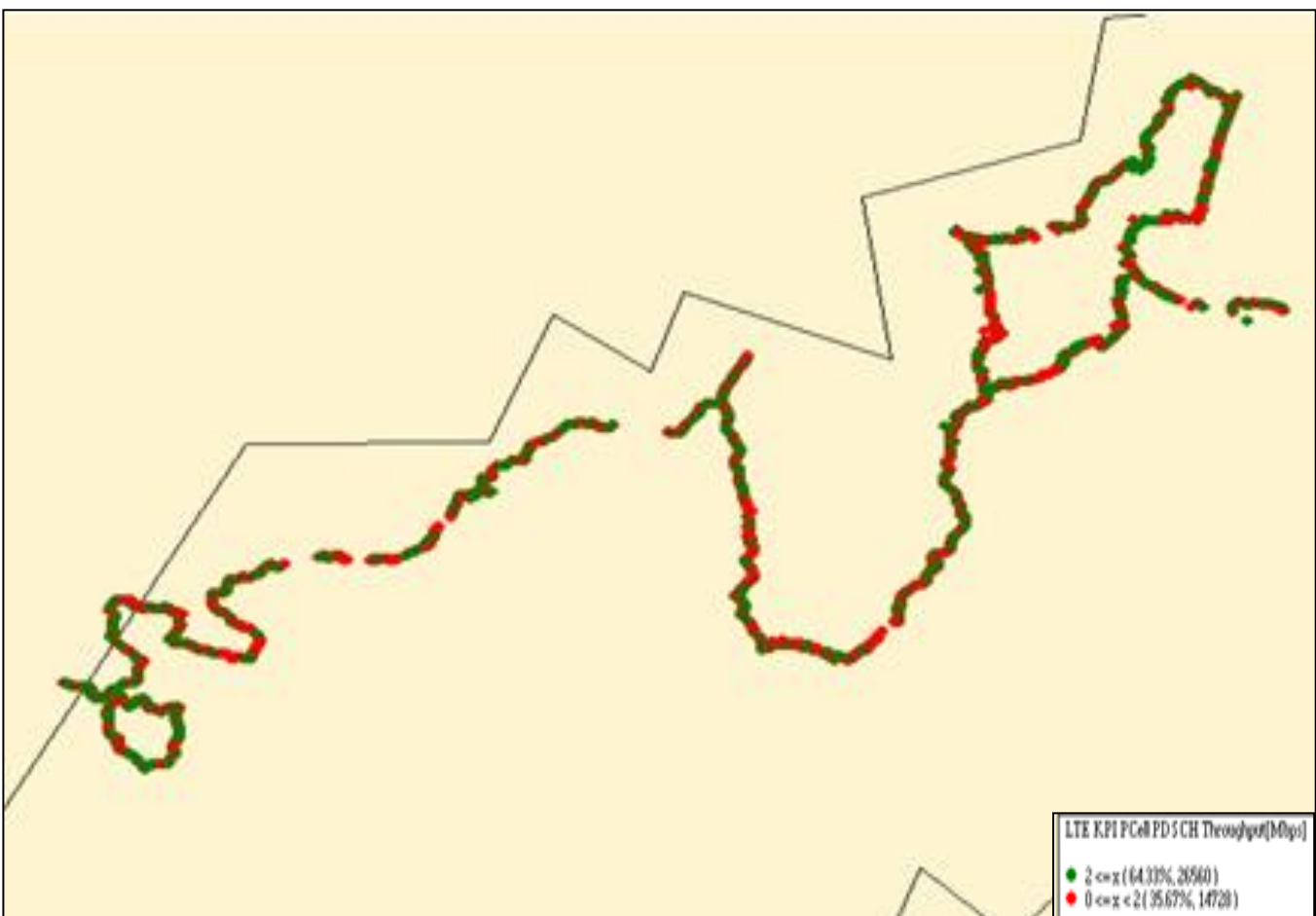


| AVG.  DOWNLOAD SPEED (Mbps) | 9.46 |
|---|---|
| % FILE TRANSFER COMPLETE | 100.0 |
| DL throughput | Sample % |
| 0 to 1 Mbps | 28.4% |
| 1 to 2 Mbps | 7.3% |
| 2 to 5 Mbps | 18.2% |
| 5 to 10 Mbps | 18.2% |
| >10 Mbps | 27.9% |
| **Total** | **100%** |

## VIL

### Dynamic Data Testing Complete 358 Kms

| Data KPIs - Overall | 2G |
|---|---|
| Average Download Throughput (Kbps) | 69.39 |

### 2G



RLC Throughput DL (Kbps)
- 100 to Max (58.14%) (6079616)
- Min to 100 (41.86%) (4377240)
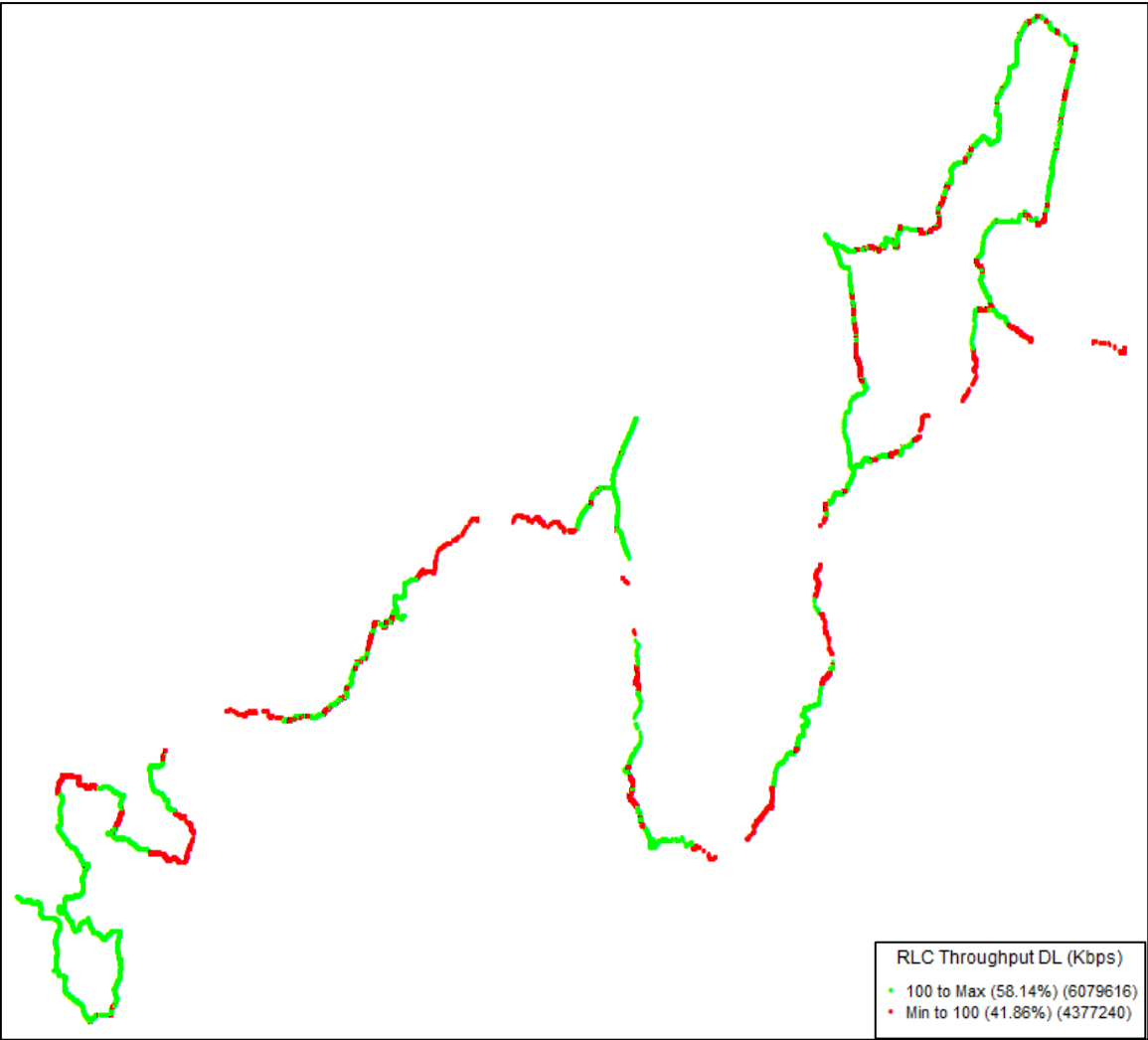
| AVG. DOWNLOAD SPEED (Kbps) | 69.39 |
|---|---|
| % FILE TRANSFER COMPLETE | 94.81 |
| DL throughput | Sample % |
| 0 to 50 Kbps | 30.12 |
| 50 to 100 Kbps | 11.74 |
| 100 to 200 Kbps | 24.48 |
| 200 to 300 Kbps | 20.63 |
| >300 Kbps | 13.03 |
| **Total** | **100%** |

## VIL

### Dynamic Data Testing Complete  358 Kms

| Data KPIs - Overall | 3G |
|---|---|
| Average Download Throughput (Mbps) | 1.90 |

### 3G



Throughput DL (Kbps)
- 1024 to Max (68.54%) (6062741)
- Min to 1024 (31.46%) (2782811)
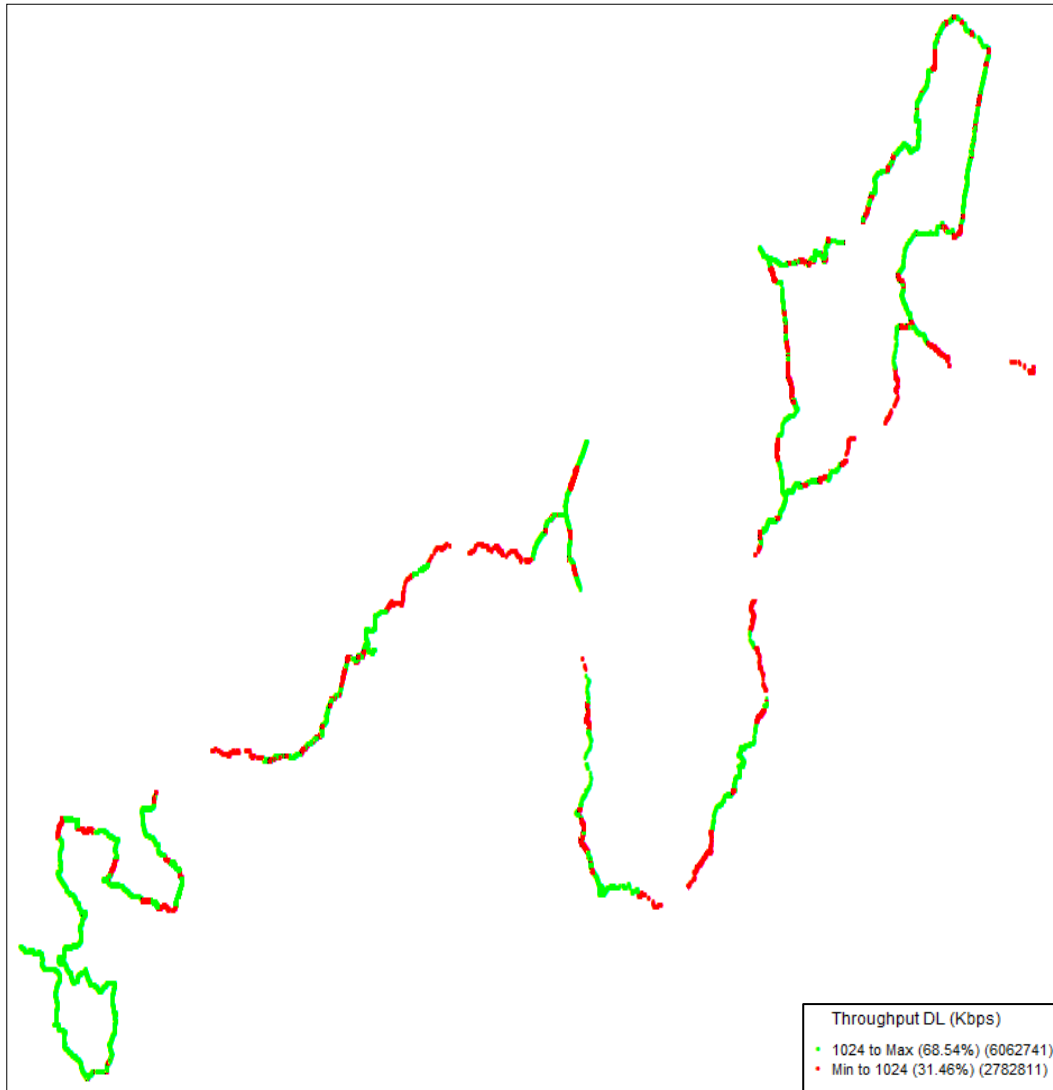
| AVG. DOWNLOAD SPEED (Mbps) | 1.90 |
|---|---|
| % FILE TRANSFER COMPLETE | 84.85 |
| DL throughput | Sample % |
| 0 to 0.5 Mbps | 28.81 |
| 0.5 to 1 Mbps | 22.62 |
| 1 to 2 Mbps | 16.19 |
| 2 to 5 Mbps | 19.33 |
| >5 Mbps | 13.05 |
| Total | 100% |

## VIL

### Dynamic Data Testing Complete 358 Kms

| Data KPIs - Overall | 4G |
|---|---|
| Average Download Throughput (Mbps) | 3.41 |

### 4G



PDSCHPhyThroughput (Kbps)
- 2048 to Max (74.13%) (4866151)
- Min to 2048 (25.87%) (1698198)
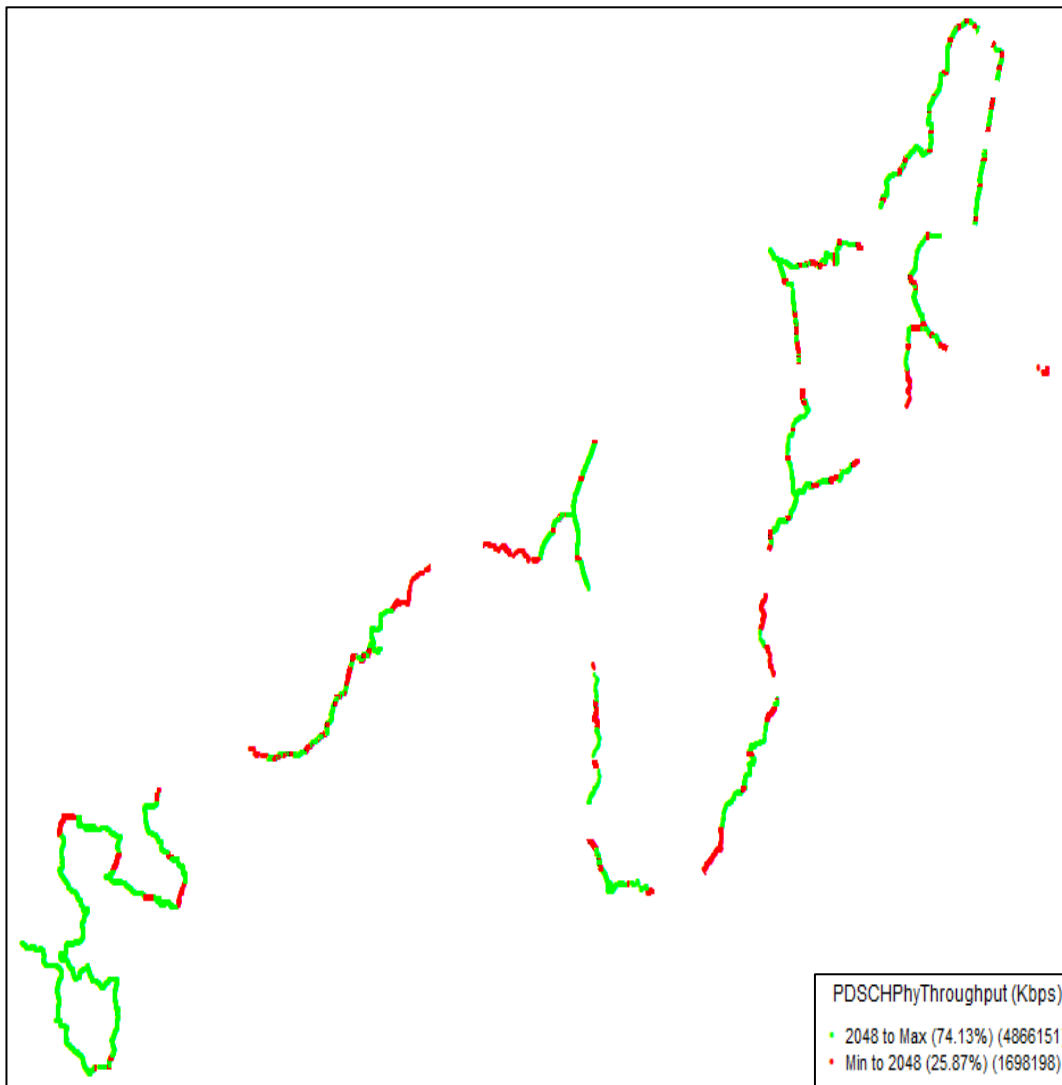
| AVG. DOWNLOAD SPEED (Mbps) | 3.41 |
|---|---|
| % FILE TRANSFER COMPLETE | 98.82 |
| DL throughput | Sample % |
| 0 to 1 Mbps | 33.22 |
| 1 to 2 Mbps | 22.85 |
| 2 to 5 Mbps | 16.21 |
| 5 to 10 Mbps | 15.94 |
| >10 Mbps | 11.78 |
| **Total** | **100%** |